

## PATENT

REMARKS

Claims 1-33 are pending in the application.

In claims 1, 12, 23, and 25, the limitation "the calculated data including level information in the secondary data which was lost in the primary data" has been inserted so as to provide the typical feature in apparatus claims of

a correlation calculating unit for calculating data that determines correlation between the primary data and the secondary data, the calculated data including level information in the secondary data which was lost in the primary data, and employing the calculated data as tertiary data;

and in method claims, the typical method feature of

calculating data that determines correlation between the primary data and the secondary data, the calculated data including level information in the secondary data which was lost in the primary data, and employing the calculated data as tertiary data.

The support for making the amendment is found in the specification at p. 4, lines 7-12, which says "Therefore, as a result of the correlation calculation operation redundant similarities between the two kinds of data that reliably include meaningful variation components (e.g., gradation data in the secondary data that does not exist in the primary data) can be obtained."

Examiner rejects claims 1-5, 11-16, 22-28, 30, and 32 under 35 U.S.C. 103, as being unpatentable over Ikeda et al. in view of Ball. However, the present invention is not obvious over the

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cited references. The cited references do not disclose nor imply the art that is common to all claims in the present application.

The LUT in Ikeda et al. (a table to convert a 8-bit representation to a 10-bit representation), which the Examiner refers to as an equivalent of the tertiary data in the present invention, does not have the effect of increasing level information like the tertiary data. The LUT in Ikeda et al. is not "data that includes level information" like the tertiary data in the present invention. Specifically, the LUT in Ikeda et al. only reconverts the 256 tonality levels in an 8-bit representation to the 256 tonality levels in a 10-bit representation (which is 1024 levels). This means that the amount of information on the tonality levels (level information) remains to be 256, and does not increase, even after the conversion to a 10-bit representation. This fact is clear from the table in Fig. 14 of Ikeda et al. Also, note that the reason why Ikeda et al. can make pseudo outlines non-conspicuous is because it has the technique of artfully setting the difference in the 256 levels  $[D(x+1) - D(x)]$  when converting into a 10-bit representation, and not because there is more information on the levels in a 10-bit representation. On the other hand, the present invention calculates the tertiary data, which includes level data lost, from the difference between the two images. Therefore, it is important that there are two images (two types of information; the primary data and the secondary data) that have different amounts of level information. For example, a digital camera would have a 12-bit raw data and an 8-bit image data.

Moreover, because the present invention has the above features, the present invention has unique advantageous effects that the cited references do not have. By additionally recording

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the tertiary data to a file after the tertiary data has been calculated, the present invention adds choice to what processes can be done afterwards. These choices of processes would be: (1) Choosing only the primary data, and reproducing a standard image data; and (2) Reproducing image data with more level information from the primary and tertiary data.

Thus, amendments have been made in claims 1, 12, 23, and 25 in order to clarify the above differences between the present invention and the cited references. Examiner is respectfully requested to appreciate the differences. Since the above differences are features common to all claims, all claims are believed to overcome the rejection once the above differences are appreciated by Examiner. Thus, claims dependent from amended claims 1, 12, 23, and 25 and claims 27-33 are all submitted also to be allowable for the reasons set forth above.

It is believed that the foregoing resolves all remaining issues, and the application is in good order for allowance, and a Notice of Allowance is solicited. If Examiner believes there is any remaining issue, which could be readily resolved or other action could be taken to advance this application, such as Examiner's amendment or interview by telephone or in person, it is requested that Examiner please telephone the undersigned, who will cooperate to advance prosecution.


If necessary to effect a timely response, this paper should be considered as a petition for extension of time of length sufficient to be considered timely. Any fees required are authorized to be charged to Deposit Account No. 07-1985.

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Respectfully submitted,

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